

WHAT IS CLAIMED IS:

1. An organic electroluminescence device comprising at least one organic layer and a pair of electrodes, said organic layer including an emitting layer being sandwiched between said pair of electrodes, said pair of electrodes being provided as a reflective electrode and a transparent electrode respectively, said organic electroluminescence device being formed to satisfy the expression (1):  $B_0 < B_\theta$  in which  $B_0$  is a normal luminance intensity of luminescence radiated from a light extraction surface to an observer side, and  $B_\theta$  is a luminance intensity of said luminescence at an angle of  $50^\circ$  to  $70^\circ$ ,

wherein a region for disturbing an angle of reflection/refraction of light is provided in an optical path in which the luminescence is output from said emitting layer to the observer side through said transparent electrode; at least one kind of luminescent material is contained in said region or between said region and said emitting layer so that said luminescent material generates fluorescence or phosphorescence when said luminescent material absorbs the luminescence radiated from said emitting layer as an excitation light source.

2. An organic electroluminescence device according to claim 1, wherein said organic electroluminescence device satisfies the expression (2):  $(0.3/n)\lambda < d < (0.5/n)\lambda$  in which

$d$  (nm) is a distance between a center portion of a hole-electron recombination emitting region and said reflective electrode,  $\lambda$  (nm) is a peak wavelength of a fluorescence spectrum of a material used in said emitting layer, and  $n$  is a refractive index of said organic layer between said emitting layer and said reflective electrode.

3. An organic electroluminescence device according to claim 1, wherein said region for disturbing the reflection/refraction angle of the light is made of a light-diffusing site containing a transparent material, and a transparent or opaque material different in refractive index from the transparent material and dispersed/distributed into the transparent material.

4. An organic electroluminescence device according to claim 1, wherein said region for disturbing the reflection/refraction angle of the light is formed of a lens structure.

5. An organic electroluminescence device according to claim 1, wherein said region for disturbing the reflection/refraction angle of the light is formed of a uneven surface.

6. A planar light source including an organic electroluminescence device defined in claim 1.

7. A display device including an organic electroluminescence device defined in claim 1.

8. An organic electroluminescence device according to claim 1, wherein said region for disturbing the angle of reflection/refraction of light comprises an anisotropic scattering resin layer containing a light-transmissive resin, and micro domains dispersed/distributed in said light-transmissive resin and different in birefringence characteristic, said anisotropic scattering resin layer is formed substantially without interposition of any air layer in an optical path in which said luminescence is output from said emitting layer to the observer side through said transparent electrode.

9. An organic electroluminescence device according to claim 8, wherein said organic electroluminescence device satisfies the expression (2):  $(0.3/n)\lambda < d < (0.5/n)\lambda$  in which  $d$  (nm) is a distance between a center portion of a hole-electron recombination emitting region and said reflective electrode,  $\lambda$  (nm) is a peak wavelength of a fluorescence spectrum of a material used in said emitting layer, and  $n$  is a refractive

index of said organic layer between said emitting layer and said refractive electrode.

10. An organic electroluminescence device according  
5 to claim 8, wherein said micro domains in said anisotropic scattering resin layer are made of one member selected from the group consisting of a liquid crystal material, a vitreous material having a liquid crystal phase fixed by supercooling, and a material having a liquid crystal phase of polymerizable  
10 liquid crystal fixed by crosslinking due to an energy beam.

11. An organic electroluminescence device according to claim 8, wherein said micro domains dispersed in said light-transmissive resin of said anisotropic scattering resin  
15 layer are made of a liquid crystal polymer having a glass transition temperature of not lower than 50°C to exhibit a nematic liquid crystal phase at a temperature lower than the glass transition temperature of said light-transmissive resin.

20 12. An organic electroluminescence device according to claim 8, wherein: said anisotropic scattering resin layer exhibits refractive index differences  $\Delta n_1$ ,  $\Delta n_2$  and  $\Delta n_3$  between said micro domains and other portions in directions of respective optical axes of said micro domains; and the refractive index  
25 difference  $\Delta n_1$  in a  $\Delta n_1$  axial direction as the highest of the

refractive index differences  $\Delta n_1$ ,  $\Delta n_2$  and  $\Delta n_3$  is in a range of from 0.03 to 0.5 whereas each of the refractive index differences  $\Delta n_2$  and  $\Delta n_3$  in two  $\Delta n_2$  and  $\Delta n_3$  axial directions perpendicular to the  $\Delta n_1$  direction is not larger than 0.03.

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13. A polarizing-type planar light source including an organic electroluminescence device defined in claim 8.

14. A display device including an organic  
10 electroluminescence device defined in claim 8.